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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/509,461	09/28/2004	Ronald Joseph Antonius Van Den Oetelaar	NL021241	5297

24737 7590 04/28/2009
PHILIPS INTELLECTUAL PROPERTY & STANDARDS
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EXAMINER	
HEYI, HENOK G	

ART UNIT	PAPER NUMBER
2627	

MAIL DATE	DELIVERY MODE
04/28/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/509,461	VAN DEN OETELAAR ET AL.	
	Examiner	Art Unit	
	HENOK G. HEYI	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 January 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3 and 5-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3 and 5-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *28 September 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see page 7 lines 15-21, filed 01/16/2009, with respect to the rejection(s) of claim(s) 1-3 and 5-10 under 35 U.S.C. § 103 (a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Komma et al. US 6,954,417 B2 (Komma hereinafter).

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 1-3 and 5-6 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 2 and 8 of

copending Application No. 10/509,455 in view of Miyamoto et al. US 2001/0016242 A1 (Miyamoto hereinafter).

Regarding claim 1, the only substantive difference between the conflicting claims, shown below in the table and claim 1 is that the second claim of US 20050163023 specifies about the thickness of the transparent spacer layer in detail. Other than that, both sides of the table show an optical data storage medium with dual layers and a transparent spacer layer in between. It is obvious to make the thickness of the spacer layer larger than the depth of focus of the focused radiation beam in order to avoid interference between the layers.

Present Application **10/509,461**	***US 20050163023*** **Van Den oetelaar**
1. A dual stack optical data storage medium for recording and reading by means of a focused radiation beam entering the medium through a first radiation beam entrance face, said medium having at least a first substrate with on at least one side of the first substrate: a first layer stack, comprising a first information layer, a second layer stack, comprising a second information layer, said first layer stack being present at a position closer to the first radiation beam entrance face than the second layer stack, a first transparent spacer layer between the first layer stack and the second layer stack, characterized in that	1. An optical data storage medium (20) for recording by means of a focused radiation beam (9) entering the medium through a first plastic/resinous layer (1) which is transparent for the radiation beam (9), said medium further comprising at least: a first recording stack (2), comprising a first recording layer, being present proximate the first plastic/resinous layer, a second recording stack (4), comprising a second recording layer, said second recording stack (4) being present at a position more remote from the first plastic/resinous layer (1) than the first recording stack (2), **a transparent spacer layer (3) between the first and the second recording stack having a**

the first information layer is one selected from the group of types consisting of a read only layer and a write once layer, and that the second information layer is one selected from the group of types consisting of a read only layer, a write once layer and a rewritable layer, and that the type of the first information layer is different from the type of the second information layer.	**thickness larger than the depth of focus of the focused radiation beam characterized in that a first optically transparent thermal barrier layer (b1) interposed between the first recording stack and the first plastic/resinous layer.** 2. An optical data storage medium (20) as claimed in claim1, wherein the first recording layer is a write once layer and the second recording layer is one selected from a write once layer, a rewritable layer and a read only layer.
2. A dual stack optical data storage medium as claimed in claim 1, wherein the second information layer is a rewritable layer.	2. An optical data storage medium (20) as claimed in claim1, wherein the first recording layer is a write once layer and the second recording layer is one selected from a write once layer, a rewritable layer and a read only layer.
3. A dual stack optical data storage medium as claimed in any one of claims 1 or 2, wherein the first radiation beam entrance face is in a first protective cover layer separate from the first substrate.	1. An optical data storage medium (20) for recording by means of a focused **radiation beam (9) entering the medium through a first plastic/resinous layer (1) which is transparent for the radiation beam (9)**, said medium further comprising at least: a first recording stack (2), comprising a first recording layer, being present proximate the first plastic/resinous layer, a second recording stack (4), comprising a second recording layer, said second recording stack (4) being present at a position more remote from the first plastic/resinous layer (1) than the first

	recording stack (2), a transparent spacer layer (3) between the first and the second recording stack having a thickness larger than the depth of focus of the focused radiation beam characterized in that a first optically transparent thermal barrier layer (b1) interposed between the first recording stack and the first plastic/resinous layer.
5. A dual stack optical data storage medium as claimed in claims 3 and 4, wherein the second radiation beam entrance face is in the first substrate.	8. An optical data storage medium (30) as claimed in any one of claims 1- 7, wherein the medium further comprises at least: a second plastic/resinous layer (1 ') transparent for the radiation beam (9), opposite from the first plastic/resinous layer (1), a third recording stack (2'), comprising a third recording layer, being present proximate the second plastic/resinous layer, a fourth recording stack (4'), comprising a fourth recording layer, said fourth recording stack being present at a position more remote from the second plastic/resinous layer (1 ') than the third recording stack (2'), a transparent spacer layer (3') between the third and the fourth recording stack having a thickness larger than the depth of focus of the focused radiation beam **a second optically transparent thermal barrier layer (b2), interposed between the third recording stack and the second plastic/resinous layer.**
6. A dual stack optical data storage medium as claimed in claims 3 and 4, wherein the second radiation beam entrance face is in a second protective cover layer.	8. An optical data storage medium (30) as claimed in any one of claims 1- 7, wherein the medium further comprises at least: a second plastic/resinous layer (1 ') transparent for the radiation beam

	(9), opposite from the first plastic/resinous layer (1), a third recording stack (2'), comprising a third recording layer, being present proximate the second plastic/resinous layer, a fourth recording stack (4'), comprising a fourth recording layer, said fourth recording stack being present at a position more remote from the second plastic/resinous layer (1 ') than the third recording stack (2'), a transparent spacer layer (3') between the third and the fourth recording stack having a thickness larger than the depth of focus of the focused radiation beam **a second optically transparent thermal barrier layer (b2), interposed between the third recording stack and the second plastic/resinous layer.**

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-3 and 5-7 rejected under 35 U.S.C. 103(a) as being unpatentable over Miyamoto et al. US 2001/0016242 A1 (Miyamoto hereinafter) in view of Kaneko et al. 5,726,970 (Kaneko hereinafter) and further in view of Komma et al. US 6,954,417 B2 (Komma hereinafter).

Regarding claim 1, Miyamoto teaches a dual stack optical data storage medium (see Fig. 1) for recording and reading by means of a focused radiation beam entering the medium through a first radiation beam entrance face (laser beam onto the recording layer of the optical disc, para [0100]), said medium having at least a first substrate with on at least one side of the first substrate (1-1): a first layer stack (1-2 to 1-9), comprising a first information layer (1-5), a second layer stack (1-2' to 1-9'), comprising a second information layer (1-5'), said first layer stack being present at a position closer to the first radiation beam entrance face than the second layer stack, a first transparent spacer layer between the first layer stack and the second layer stack (1-10), but Miyamoto fails to teach a dual stack storage medium characterized in that the first information layer is one selected from the group of types consisting of a read only layer and a write once layer, and that the second information layer is one selected from the group of types consisting of a read only layer, a write once layer and a rewritable layer, and that the type of the first information layer is different from the type of the second information layer. However, Kaneko teaches a read-only-memory (ROM) type information storage layer having a high light-transmittance is provided on a transparent substrate and a rewritable information storage layer is provided on the ROM layer through a spacer layer (col 2 line 35-45).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the optical recording medium of Miyamoto to select a read only layer or a write once layer for the first layer and a read only layer, a write once layer or a rewritable layer for the second layer. The modification would have been obvious

because the medium would be capable of reproducing signals stored on the respective information storage layers thereof in a sufficient level and treating a large volume of information as taught by Kaneko.

But either of the two references don't teach the medium further comprising a second radiation beam entrance face opposite from the first radiation beam entrance face and a third layer stack, comprising a third information layer selected from the group consisting of a read only layer and a write once layer, a fourth layer stack, comprising a fourth information layer selected from the group consisting of a read only layer, a write once layer and a rewritable layer, said third layer stack being present at a position closer to the second radiation beam entrance face than the fourth layer stack, a second transparent spacer layer between the third layer stack and the fourth layer stack, and that the type of the third information layer is different from the type of the fourth information layer. However, Komma teaches a four layer disc having four recording layers laminated (see col 17 lines 5-12).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the dual optical recording medium of Miyamoto to have two more recording layers as taught by Komma. The modification would have been obvious because of the benefit of multi-layer discs in having larger storage area.

Regarding claim 2, Kaneko teaches a dual stack optical data storage medium as claimed in claim 1, wherein the second information layer is a rewritable layer (col 2 lines 35-45).

Regarding claim 3, Miyamoto teaches a dual stack optical data storage medium as claimed in any one of claims 1, wherein the first radiation beam entrance face is in a first protective cover layer separate from the first substrate (the laser beam is reflected on the substrate surface, para [0084]).

Regarding claim 5, Miyamoto teaches a dual stack optical data storage medium as claimed in claim 4, wherein the second radiation beam entrance face is in the first substrate (the laser beam is reflected on the substrate surface, para [0084]).

Regarding claim 6, Miyamoto teaches a dual stack optical data storage medium (see Fig. 1) as claimed in claim 4, wherein the second radiation beam entrance face is in a second protective cover layer (a second interference layer and an interface layer having mutually different compositions and disposed on a laser beam incidence side of the recording layer, see Abstract).

Regarding claim 7, Miyamoto teaches a dual stack optical data storage medium (see Fig. 1) as claimed in claim 4, wherein the fourth information layer is a rewritable layer (see para [0017] and para [0009]).

6. Claims 8-10 rejected under 35 U.S.C. 103(a) as being unpatentable over Miyamoto et al. US 2001/0016242 A1 (Miyamoto hereinafter) in view of Kaneko et al. 5,726,970 (Kaneko hereinafter) and Komma et al. US 6,954,417 B2 (Komma hereinafter) as applied to claim 1 above, and further in view of Hirotsune et al. US 2003/0064211 A1 (Hirotsune hereinafter).

Regarding claim 8, Miyamoto teaches a dual stack optical data storage medium as claimed in claim one but fails to mention anything about the effective reflection level

of the stacks. Kaneko and Komma also fail to teach that limitation. However, Hirotsune teaches a reference value in a range of 15% to 25% for wavelengths between 610nm and 710nm (see para [0238]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the dual-stack optical recording medium of Miyamoto to include layers with effective reflection level of certain percentage. The modification would have been obvious because it is highly important to control reflectivity in optical storage mediums.

Regarding claim 9, Miyamoto teaches about a dual stack optical data storage medium as claimed in claim 3 but fails to mention anything about the effective reflection level of the stacks. Kaneko and Komma also fail to teach that limitation. However, Hirotsune discloses that at a further shorter wavelength, the reflectance in the amorphous state and in the crystalline state has a minimum value in a range from 360 nm to 500 nm (see para [0234]).

Regarding claim 10, Miyamoto teaches about a dual stack optical data storage medium as claimed in claim 3 but fails to mention anything about the effective reflection level of the stacks. Kaneko and Komma also fail to teach that limitation. However, Hirotsune discloses that at a further shorter wavelength, the reflectance in the amorphous state and in the crystalline state has a minimum value in a range from 360 nm to 500 nm (see para [0234]) and a reference value in a range of 15% to 25% for wavelengths between 610nm and 710nm (see para [0238]).

Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HENOK G. HEYI whose telephone number is (571)270-1816. The examiner can normally be reached on Monday to Friday 8:30 to 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild can be reached on (571) 272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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